

Appl. No. : 09/864,605
Filed : May 24, 2001

REMARKS

Claims 26-52 are pending in this application. The Examiner rejected Claims 26-52. In particular, the Examiner rejected Claims 26, 28-30, 48, 50, and 52 under U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,894,529 (the "Borden patent"). The Examiner further rejected Claims 26-30, 32, 39, 47, 48, 50, and 52 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,783,938 ("the Munson patent"). The Examiner further rejected Claims 31, 33, and 38 under 35 U.S.C. § 103(a) as being unpatentable over Munson in view of U.S. Patent No. 5,633,172 ("the Shimazaki patent"). The Examiner further rejected Claims 34-37, 39, 40-47, and 49 under 35 U.S.C. § 103(a) as being unpatentable over Borden in view of U.S. Patent No. 6,429,935 ("the Duan patent"). The Examiner further rejected Claims 34-37, 39, 40-47, and 51 under 35 U.S.C. § 103(a) as being unpatentable over Munson in view of Duan.

Applicants would like to thank Examiner MacArthur for the interview extended to Applicants' representative, Karen J. Lenker, on July 1, 2003. During the interview, the Examiner agreed that the amendments to Claim 26 clarified the patentably distinguishing features of the invention. Accordingly, Applicants have also amended Claims 48, 49, and 52 along the lines discussed in the interview. Additionally, Claims 51 and 52 have been amended to correct their dependency. Reconsideration of the pending claims, as amended, is therefore respectfully requested.

THE SPECIFICATION

Priority Claim

By the foregoing amendment to the specification, Applicants have added a claim for priority to the Applicants' U.S. application of the title "System and Method for Analyzing a Semiconductor Surface," which issued as U.S. Patent No. 6,420,275 on July, 16, 2002.

REJECTION OF CLAIMS 26, 28-30, 48, 50, and 52 UNDER 35 U.S.C. § 102(b)

The Examiner rejected Claims 26, 28-30, 48, 50, and 52 under 35 U.S.C. § 102(b) as being anticipated by Borden. Claims 26, 48, and 52 have been amended to

clarify the features of Applicants' inventions. In view of the following discussion, Applicants respectfully traverse this rejection.

Claims 26 and 48

Borden appears to teach a real-time particle counter for sensing particle contamination in liquids used in the processing of semiconductor wafers. Borden appears to pump a liquid sample through a pipe into a nebulizer. A drying chamber evaporates the small droplets from the nebulizer, leaving any contaminant particles in the sample suspended in air. A particle counter counts the contaminant particles in real time. Borden discloses a continuous sample in order to achieve a real time particle count.

Borden does not disclose dispensing a liquid. Also, Borden does not disclose a first tube or a first means configured to isolate a portion of a wafer. Neither does Borden disclose a second tube or a second means configured to dispense liquid onto the isolated portion of a wafer.

Further, Borden does not teach or suggest peristaltically pumping a portion of the liquid from the selected portion on the wafer.

In contrast, in one embodiment of the invention, a peristaltic pump directs the liquid in the transfer tubing to the analyzer. In another embodiment of the invention, peristaltic pumping means transfers the liquid. See page 3, lines 19-22 and 28-30, page 8 lines 3-13, Figure 2 and Figure 3.

As an advantage of using a peristaltic pump, the specification discloses on page 8, lines 9-11, that "the liquid does not contact materiel such as rubber or reactive metals which could either absorb or react with the liquid 34 or the dissolved components in the liquid 34." That is, the liquid can be pumped to the nebulizer through the peristaltic pump without degrading the liquid because the moving parts of the peristaltic pump never touch the liquid.

Because the reference cited by the Examiner does not disclose, teach or suggest the use of a peristaltic pump, Applicants assert that Claims 26 and 48 are not anticipated by Borden. Applicants therefore respectfully submit that Claims 26 and 48 are patentably distinguished over the cited reference and Applicants respectfully request allowance of Claims 26 and 48.

Claims 28-30

Claims 28-30, which depend from Claim 26, are believed to be patentable for the same reasons articulated above with respect to Claim 26, and because of the additional features recited therein.

Claims 50 and 52

Claims 50 and 52, which depend from Claim 48, are believed to be patentable for the same reasons articulated above with respect to Claim 48, and because of the additional features recited therein.

REJECTION OF CLAIMS 26-30, 32, 39, 47, 48, 50, and 52 UNDER 35 U.S.C. § 102(b)

The Examiner rejected Claims 26-30, 32, 39, 47, 48, 50, and 52 under 35 U.S.C. § 102(b) as being anticipated by Munson. Claims 26, 48, and 52 have been amended to clarify the features of Applicants' inventions. In view of the following discussion, Applicants respectfully traverse this rejection.

Claims 26 and 48

Munson appears to teach dispensing an extraction fluid over an area of an electronic circuit assembly. After the extraction fluid has extracted residue from the area of the electronic circuit assembly, the residue is delivered to the test cell for quantitatively measuring the corrosive effects of the residue. Munson appears to disclose transferring the fluid to the test cell by using a fluid pump. Munson does not teach or suggest the use of a peristaltic pump.

In contrast, in one embodiment of the invention, a peristaltic pump directs the liquid in the transfer tubing to the analyzer. In another embodiment of the invention, peristaltic pumping means transfers the liquid. See page 3, lines 19-22 and 28-30, page 8 lines 3-13, Figure 2 and Figure 3.

As an advantage of using a peristaltic pump, the specification discloses on page 8, lines 9-11, that "the liquid does not contact materiel such as rubber or reactive metals which could either absorb or react with the liquid 34 or the dissolved components in the liquid 34." That is, the liquid can be pumped to the nebulizer through the peristaltic pump without degrading the liquid because the moving parts of the peristaltic pump never touch the liquid.

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Because the references cited by the Examiner do not disclose, teach or suggest the use of a peristaltic pump, Applicants assert that Claims 26 and 48 are not anticipated by Munson. Applicants therefore respectfully submit that Claims 26 and 48 are patentably distinguished over the cited references and Applicants respectfully request allowance of Claims 26 and 48.

Claims 27-30, and 32

Claims 27-30 and 32, which depend from Claim 26, are believed to be patentable for the same reasons articulated above with respect to Claim 26, and because of the additional features recited therein.

Claim 39

Claim 39, which depends from Claim 34, is believed to be patentable for the same reasons articulated with respect to Claim 34, and because of the additional features recited therein.

Claim 47

Claim 47, which depends from Claim 41, is believed to be patentable for the same reasons articulated with respect to Claim 41, and because of the additional features recited therein.

Claims 50 and 52

Claims 50 and 52, which depend from Claim 48, are believed to be patentable for the same reasons articulated above with respect to Claim 48, and because of the additional features recited therein.

REJECTION OF CLAIMS 31, 33, and 38 UNDER 35 U.S.C. § 103(a)

The Examiner rejected Claims 31, 33, and 38 under 35 U.S.C. § 103(a) as being unpatentable over Munson in view of Shimazaki. Claims 31 and 33, which depend from Claim 26, are believed to be patentable for the same reasons articulated above with respect to Claim 26, and because of the additional features recited therein. Claim 38, which depends from Claim 34, is believed to be patentable for the same reasons articulated with respect to Claim 34, and because of the additional features recited therein.

REJECTION OF CLAIMS 34-37, 39, 40-47, and 49 UNDER 35 U.S.C. § 103(a)

The Examiner rejected Claims 34-37, 39, 40-47, and 49 under 35 U.S.C. § 103(a) as being unpatentable over Borden in view of Duan. In view of the above claim amendments and the following discussion, Applicants respectfully traverse this rejection.

Applicants respectfully submit that the claims as previously pending are patentably distinguished over the Borden patent, the other cited references or any combination thereof. Claim 49, however, has been amended without altering its scope in order to clarify the patentably distinguishing features of Applicants' inventions.

Claims 34 and 41

Borden appears to teach a real-time particle counter for sensing particle contamination in liquids used in the processing of semiconductor wafers. Borden appears to pump a liquid sample through a pipe into a nebulizer. A drying chamber evaporates the small droplets from the nebulizer, leaving any contaminant particles in the sample suspended in air. A particle counter counts the contaminant particles in real time. Borden discloses a continuous sample in order to achieve a real time particle count.

Borden does not disclose dispensing a liquid. Also, Borden does not disclose a first tube or a first means configured to isolate a portion of a wafer. Neither does Borden disclose a second tube or a second means configured to dispense liquid onto the isolated portion of a wafer.

Further, Borden does not teach or suggest peristaltically pumping a portion of the liquid from the selected portion on the wafer.

In contrast, in one embodiment of the invention, a peristaltic pump directs the liquid in the transfer tubing to the analyzer. In another embodiment of the invention, peristaltic pumping means transfers the liquid. See page 3, lines 19-22 and 28-30, page 8 lines 3-13, Figure 2 and Figure 3.

As an advantage of using a peristaltic pump, the specification discloses on page 8, lines 9-11, that "the liquid does not contact material such as rubber or reactive metals which could either absorb or react with the liquid 34 or the dissolved components in the liquid 34." That is, the liquid can be pumped to the nebulizer through the peristaltic

pump without degrading the liquid because the moving parts of the peristaltic pump never touch the liquid.

Duan appears to teach the use of a peristaltic pump. However, Applicants have added a priority claim to U.S. Patent Application No. 09/386,124, filed on August 30, 1999, which is now U.S. Patent No. 6,420,275. The priority date of Duan is March 2, 2000 and the priority date of the invention is August 30, 1999. Thus, Duan can not be relied on as prior art.

Because the Borden reference cited by the Examiner does not disclose, teach or suggest the use of a peristaltic pump, and the Duan reference cited by the Examiner is not prior art, Applicants assert that Claims 34 and 41 are not obvious in view of Borden and Duan. Applicants therefore respectfully submit that Claims 34 and 41 are patentably distinguished over the cited references and Applicants respectfully request allowance of Claims 34 and 41.

Claims 35, 36, 37, 39, and 40

Claims 35, 36, 37, 39 and 40 which depend from Claim 34, are believed to be patentable for the same reasons articulated above with respect to Claim 34, and because of the additional features recited therein.

Claims 42-47

Claims 42-47, which depend from Claim 41, are believed to be patentable for the same reasons articulated above with respect to Claim 41, and because of the additional features recited therein.

Claim 49

Claim 49, which depends from Claim 48, is believed to be patentable for the same reasons articulated above with respect to Claim 48, and because of the additional features recited therein.

REJECTION OF CLAIMS 34-37, 39, 40-47, 49, and 51 UNDER 35 U.S.C. § 103(a)

The Examiner rejected Claims 34-37, 39, 40-47, 49, and 51 under 35 U.S.C. § 103(a) as being unpatentable over Munson in view of Duan. In view of the above claim amendments and the following discussion, Applicants respectfully traverse this rejection.

Applicants respectfully submit that the claims as previously pending are patentably distinguished over the Borden patent, the other cited references or any combination thereof. Claim 49, however, has been amended without altering its scope in order to clarify the patentably distinguishing features of Applicants' inventions. Claim 51 has been amended to correct dependency.

Claims 34 and 41

Munson appears to teach dispensing an extraction fluid over an area of an electronic circuit assembly. After the extraction fluid has extracted residue from the area of the electronic circuit assembly, the residue is delivered to the test cell for quantitatively measuring the corrosive effects of the residue. Munson appears to disclose transferring the fluid to the test cell by using a fluid pump. Munson does not teach or suggest the use of a peristaltic pump.

In contrast, in one embodiment of the invention, a peristaltic pump directs the liquid in the transfer tubing to the analyzer. In another embodiment of the invention, peristaltic pumping means transfers the liquid. See page 3, lines 19-22 and 28-30, page 8 lines 3-13, Figure 2 and Figure 3.

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Claims 35, 36, 37, 39, and 40

Claims 35, 36, 37, 39 and 40, which depend from Claim 34, are believed to be patentable for the same reasons articulated above with respect to Claim 34, and because of the additional features recited therein.

Claims 42-47

Claims 42-47, which depend from Claim 41, are believed to be patentable for the same reasons articulated above with respect to Claim 41, and because of the additional features recited therein.

Claims 49 and 51

Claims 49 and 51, which depends from Claim 48, are believed to be patentable for the same reasons articulated above with respect to Claim 48, and because of the additional features recited therein.

REQUEST FOR TELEPHONE INTERVIEW

Pursuant to M.P.E.P. § 713.01, in order to expedite prosecution of this application, Applicant's undersigned attorney of record hereby formally requests a telephone interview with the Examiner as soon as the Examiner has considered the effect of the arguments presented above. Applicant's attorney can be reached at (949) 721-2998 or at the number listed below.

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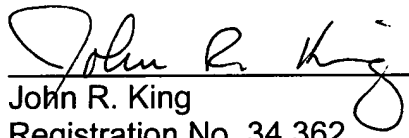
CONCLUSION

In view of the forgoing, the present application is believed to be in condition for allowance, and such allowance is respectfully requested. If further issues remain to be resolved, the Examiner is cordially invited to contact the undersigned such that any remaining issues may be promptly resolved. Also, please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 7/2/03

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